



## **Bridge Repair/Strengthening Summary**

Mile Post	MaineDOT Bridge #	Town	Feature Crossed	Bridge Type	Bridge Length	No. of Spans	Existing Rating Factor (25 MPH)	Strengthening/Repair Construction Cost Estimate
111.14	7763	Grindstone	South Meadow Brook	I-Beam	23'-5"	1	229	\$360,000
113.14	814	Grindstone	Route 11	Through Plate Girder	36'	1	210	\$230,000
113.14	7766	Grindstone	East Branch Penobscot River	Through Truss	300'-10"	2	350	\$500,000
139.56	7771	Island Falls	Fish River	Through Plate Girder	75'-8"	1	264	\$190,000
139.66	7772	Island Falls	West Branch Mattawamkeag River	Through Plate Girder	120'-8"	2	350	\$170,000
148.70	3504	Oakfield	Ridge Road	Ballasted Through Plate Girder	43'-6"	1	254	\$170,000
151.54	7775	Smyrna Mills	East Branch Mattawamkeag River	Through Plate Girder	76'	1	235	\$240,000
154.04	7776	Smyrna	Soule Brook	I-Beam	13'	1	189	\$260,000
154.59	7777	Smyrna	Dudley Brook	Through Plate Girder	55'	1	228	\$290,000
155.09	N/A	Smyrna	Moose Brook	Concrete Slab	9'	1	142	\$180,000
161.03	7778	Dudley Township	Smith Brook	Through Plate Girder	76'	1	235	\$390,000
164.74	7779	St. Croix Township	Howe Brook	Through Plate Girder	55'	1	228	\$190,000
167.76	7780	St. Croix Township	Beaver Brook	Deck Plate Girder	45'	1	205	\$230,000
179.34	7781	Masardis	North Branch Blackwater River	Deck Plate Girder	44'-1"	1	205	\$170,000
185.84	7782	Masardis	Squapan Stream	Through Plate Girder	75'-1"	1	233	\$250,000
193.50	7783	Ashland	Aroostook River	Deck Truss	608'-8"	4	222	\$4,510,000
193.50	7783	Ashland	Sheridan Road	Deck Plate Girder	166'	4	205	\$620,000
224.51	7785	Eagle Lake	Fish River	Deck Plate Girder	180'-6"	2	350	\$560,000
236.44	7787	Wallagrass	Wallagrass Stream	Through Plate Girder	76'	1	287	\$440,000
241.83	7788	Fort Kent	Fish River	Deck Plate Girder	270'-6"	3	350	\$1,600,000
253.87	7792	Frenchville	Dickey Brook	Through Plate Girder	65'-7"	1	260	\$390,000
259.11	7831	Frenchville	Gagnon Brook	Concrete Arch	12'	1	N/A	\$1,300,000

**Total Strengthening/Repair Construction Cost Estimate (2016 Dollars):** 

\$13,240,000







### **Bridge Repair/Strengthening Summary**

Bridge Identification									
Mile Post:	111.14	Town:	Grindstone	Latitude: 45.7085					
MaineDOT Bridge #:	7763	Feature Crossed:	South Meadow Brook	Longitude: 68.6106					

	Bridge Information									
No. of Spans:	1	Total Bridge Length:	23'-5"	Date Built:	1893					
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/5/16					

**Bridge Description:** 

No. of

Single span open timber deck four I-Beam superstructure bearing on concrete bridge seats supported by stone masonry abutments.

## **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph):

229

- Replace existing superstructure with new open timber deck steel plate girder superstructure
- Replace rotted/failing backwall timbers at both abutments
- Repoint granite stone masonry abutments

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$360,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification										
Mile Post:	113.14	Town:	Grindstone	Latitude:	45.7317					
MaineDOT Bridge #:	7766	Feature Crossed:	East Branch Penobscot River	 Longitude:	68.5896					

Bridge Information										
No. of Spans:	2	Total Bridge Length:	300'-10"	Date Built:	1925					
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/31/16					

Bridge Description:

Two span open timber deck through truss supported by a stone masonry abutment and two stone masonry piers.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 350

- Replace all bridge timbers
- Repair floorbeam crack
- Install additional web stiffeners on end floorbeams

Construction	Cost Estimate
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The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$500,000







## **Bridge Repair/Strengthening Summary**

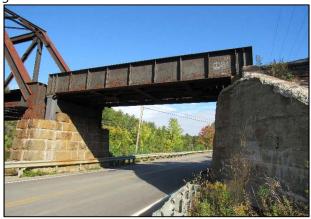
	Bridge Identification									
Mile Post:	113.14	Town:	Grindstone	Latitude:	45.7316					
MaineDOT Bridge #:	814	Feature Crossed:	Route 11	Longitude:	68.5890					

	Bridge Information									
No. of Spans:	1	Total Bridge Length:	36'	Date Built: Unknown						
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected: 10/31/16						

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by a concrete abutment and a stone masonry pier.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 210

- Strengthen floorbeams and replace stringers

- Replace rotted/failing timber retaining wall behind Northeast wingwall
- Concrete patch repair abutment

		Co	nstru	ction	Cost E	stimate			
 	 						 	-	<b>#220.000</b>

The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$230,000







## **Bridge Repair/Strengthening Summary**

	Bridge Identification									
Mile Post:	139.56	Town:	Island Falls	Latitude: 46.0152						
MaineDOT Bridge #:	7771	Feature Crossed:	Fish River	Longitude: 68.2832						

Bridge Information										
No. of Spans:	1	Total Bridge Length:	75'-8"	Date Built:	1914					
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/20/16					

Bridge Description:

Single span open timber deck through plate girder superstructure supported by concrete .

abutments.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

- tions. Existing Rating Factor (25mph)
- Strengthen floorbeams
- Replace deteriorated bearing stiffeners
- Replace deteriorated lateral bracing connection plates
- Rebuild top of wingwalls and abutment seat/pedestals
- Rebuild failing Southeast timber retaining wall

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$190,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification						
Mile Post:	139.66	Town:	Island Falls	Latitude:	46.0157	
MaineDOT Bridge #:	7772	Feature Crossed:	West Branch Mattawamkeag River	Longitude:	68.2813	

Bridge Information						
No. of Spans:	2	Total Bridge Length:	120'-8"	Date Built:	1930	
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/20/16	

**Bridge Description:** 

Two span open timber deck through plate girder superstructure supported by one concrete abutment, one concrete bridge seat on a stone masonry abutment, and a concrete pier.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

350

- Replace selected bridge timbers
- Concrete patch repair pier and south abutment
- Rebuild deteriorated corner of pier which is beginning to undermine bearing pedestal

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$170,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification				
Mile Post:	148.70	Town:	Oakfield	Latitude: 46.0995
MaineDOT Bridge #:	3504	Feature Crossed:	Ridge Road	Longitude: 68.1536

Bridge Information					
No. of Spans:	1	Total Bridge Length:	43'-6"	Date Built:	1941
No. of Tracks:	2	Track Alignment:	Tangent	Date Inspected:	10/6/16

**Bridge Description:** 

Single span ballasted through plate girder superstructure supported by concrete abutments. There are three through plate girders supporting two tracks.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

- Strengthen floorbeams
- Rebuild concrete pedestals
- Concrete patch repair both abutments
- Repair damaged knee braces

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$170,000







### **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	Latitude: 46.1351				
MaineDOT Bridge #:	7775	Feature Crossed:	East Branch Mattawamkeag River	Longitude: 68.1640	

Bridge Information						
No. of Spans:	1	Total Bridge Length:	76'	Date Built:	1896	
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/7/16	

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by stone masonry abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 235

- Strengthen girders
- Replace bridge timber support shelf angles
- Repair undermining at South abutment
- Repoint stone masonry abutments
- Install additional web stiffeners and retrofit existing web plate splices

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Constru	rtion	Cost	Fstimate	

\$240,000 The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	154.04	Town:	Smyrna	Latitude: 46.1663	
MaineDOT Bridge #:	7776	Feature Crossed:	Soule Brook	Longitude: 68.1561	

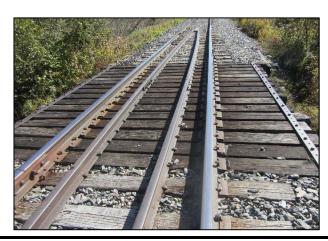
Bridge Information						
No. of Spans:	1	Total Bridge Length:	13'	Date Built:	1896	
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/6/16	

**Bridge Description:** 

Single span open timber deck four I-Beam superstructure bearing on concrete bridge seats supported by stone masonry abutments.

### **Bridge Photos:**





# **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph):

189

- Replace existing superstructure with new open timber deck steel plate girder superstructure
- Repoint granite stone masonry abutments
- Replace rotted/failing Southeast timber retaining wall
- Rebuild tops of bridge seats

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$260,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post: 154.59 Town: Smyrna Latitude: 46.1737					
MaineDOT Bridge #:	7777	Feature Crossed:	Dudley Brook	Longitude: 68.16	503

Bridge Information						
No. of Spans:	1	Total Bridge Length:	55'	Date Built:	1896	
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/7/16	

Bridge Description:

Single span open timber deck through plate girder superstructure supported by stone masonry abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 228

- Strengthen girders
- Replace bridge timber support shelf angles
- Repoint stone masonry abutments
- Replace all bridge timbers
- Install additional web stiffeners and retrofit existing web plate splices

Construction	Cost	<b>Estimate</b>
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The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$290,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post: 155.09 Town: Smyrna Latitude: 46.1806					
MaineDOT Bridge #:	N/A	Feature Crossed:	Moose Brook	Longitude: 68.1634	

Bridge Information						
No. of Spans:	1	Total Bridge Length:	9'	Date Built:	1953	
No. of Tracks:	1	Track Alignment:	Curved (3° 13')	Date Inspected:	10/6/16	

**Bridge Description:** 

Single span reinforced concrete slab superstructure supported by stone masonry abutments.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 142

- Replace existing superstructure
- Repoint stone masonry abutments
- Rebuild Southeast timber retaining wall

Construct	ion Cost	Estimate
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The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$180,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification						
Mile Post:	Mile Post: 161.03 Town: Dudley Township Latitude: 46.2626					
MaineDOT Bridge #:	7778	Feature Crossed:	Smith Brook	Longitude: 68.1583		

Bridge Information							
No. of Spans:	1	Total Bridge Length:	76'	Date Built: 1896			
No. of Tracks:	1	Track Alignment:	Curved	Date Inspected: 10/19/16			

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by stone masonry abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

- Strengthen girders
- Replace bridge timber support shelf angles
- Repoint stone masonry abutments
- Replace all bridge timbers
- Repair damaged knee braces and end plates
- Install additional web stiffeners and retrofit existing web plate splices
- Repair concrete apron around North abutment

I	Construction Cost Estimate	
	The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$390,000







### **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post: 164.74 Town: St. Croix Township Latitude: 46.3072					
MaineDOT Bridge #:	7779	Feature Crossed:	Howe Brook	Longitude: 68.1970	

Bridge Information					
No. of Spans:	1	Total Bridge Length:	55'	Date Built:	1896
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/6/16

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by stone masonry abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

- Strengthen girders
- Replace bridge timber support shelf angles
- Replace deteriorated stiffener angles
- Repoint stone masonry abutments
- Repair damaged knee braces and end plates
- Install additional web stiffeners and retrofit existing web plate splices

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$190,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	167.76	Town:	St. Croix Township	Latitude: 46.3329	
MaineDOT Bridge #:	7780	Feature Crossed:	Beaver Brook	Longitude: 68.2467	

Bridge Information							
No. of Spans:	1	Total Bridge Length:	45'	Date Built:	1896		
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/6/16		

## **Bridge Description:**

Single span open timber deck plate girder superstructure supported by stone masonry abutments.

# Bridge Photos:





## **Strengthening and Repair Recommendations**

#### Recommendations:

Existing Rating Factor (25mph): 205

- Strengthen girders
- Replace all bridge timbers
- Repoint stone masonry abutments
- Rebuild tops of concrete backwalls and wingwalls

Constru	rtion	Cost	Fstimate

The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$230,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification						
Mile Post:	179.34	Town:	Masardis	Latitude:	46.4730	
MaineDOT Bridge #:	7781	Feature Crossed:	North Branch Blackwater River	Longitude:	68.3435	

Bridge Information							
No. of Spans:	1	Total Bridge Length:	44'-1"	Date Built:	1896		
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/5/16		

**Bridge Description:** 

Single span open timber deck plate girder superstructure supported by stone masonry abutments.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 205

- Strengthen girders
- Repoint stone masonry abutments
- Rebuild tops of concrete backwalls and wingwalls

Construction	Cost	Fstimate

The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$170,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	185.84	Town:	Masardis	Latitude: 46.5595	
MaineDOT Bridge #:	7782	Feature Crossed:	Squapan Stream	Longitude: 68.3749	

Bridge Information								
No. of Spans:	1	Total Bridge Length:	75'-1"	Date Built:	1896			
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/5/16			

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by stone masonry abutments.

**Bridge Photos:** 





#### **Strengthening and Repair Recommendations**

Recommendations:

- Strengthen girders
- Replace bridge timber support shelf angles
- Replace deteriorated stiffener angles
- Repoint stone masonry abutments
- Rebuild top half of North concrete backwall
- Rebuild Southeast timber retaining wall
- Repair damaged end plates
- Retrofit existing web plate splices

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$250,000







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	193.50	Town:	Ashland	Latitude:	46.6538
MaineDOT Bridge #:	7783	Feature Crossed:	Aroostook River	 Longitude:	68.4105

Bridge Information							
No. of Spans:	4	Total Bridge Length:	608'-8"	Date Built:	1902		
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/24/16		

**Bridge Description:** 

Four span open timber deck truss supported by stone masonry piers.

Bridge Photos:





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph):

- Replace truss stringers
- Replace truss diagonals
- Strengthen truss verticals
- Tighten truss counters
- Rehabilitate bearings
- Replace all bridge timbers
- Repoint stone masonry piers
- Concrete patch repair concrete aprons around piers

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$4,510,000



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### **Bridge Repair/Strengthening Summary**

	Bridge Identification											
Mile Post:	193.50	Town:	Ashland	Latitude: 46.6538								
MaineDOT Bridge #:	7783	Feature Crossed:	Sheridan Road	Longitude: 68.4105								

	Bridge Information												
No. of Spans:	4	Total Bridge Length:	166'	Date Built:	1902								
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/26/16								

**Bridge Description:** 

Two two-span open timber deck plate girder approaches supported by stone masonry piers and abutments. These spans are the approaches to the deck truss spans over the Aroostook River.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

- Strengthen deck girders
- Repair impact damage to steel pier bent
- Repoint stone masonry abutments
- Replace all bridge timbers
- Rebuild Northwest timber retaining wall
- Install additional web stiffeners and retrofit existing web plate splices

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$620,000







## **Bridge Repair/Strengthening Summary**

	Bridge Identification												
Mile Post:	224.51	Town:	Eagle Lake	Latitude: 47.0139									
MaineDOT Bridge #:	7785	Feature Crossed:	Fish River	Longitude: 68.5891									

	Bridge Information													
No. of Spans:	2	Total Bridge Length:	180'-6"	Date Built:	1902									
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/17/16									

**Bridge Description:** 

Two span open timber deck plate girder superstructure supported by a concrete pier and concrete abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 350

- Install additional web stiffeners
- Install wingwall tie-back system at both abutments
- Rebuild Northwest corner of abutment backwall/wingwall

				C	ons	stru	ctio	n C	ost E	Esti	mate	)				
	 		 						-					 		



The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:

\$560,000





## **Bridge Repair/Strengthening Summary**

	Bridge Identification												
Mile Post:	236.44	Town:	Wallagrass	Latitude:	47.1687								
MaineDOT Bridge #:	7787	Feature Crossed:	Wallagrass Stream	 Longitude:	68.5861								

	Bridge Information												
No. of Spans:	1	Total Bridge Length:	76'	Date Built: 1902									
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected: 10/17/16									

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by concrete

abutments.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

- Replace bridge timber support shelf angles
- Repair damaged knee braces
- Install additional web stiffeners
- Repair area of scour under North abutment
- Repair concrete abutments

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$440,000







## **Bridge Repair/Strengthening Summary**

	Bridge Identification											
Mile Post:	241.83	Town:	Fort Kent	Latitude: 47.2309								
MaineDOT Bridge #:	7788	Feature Crossed:	Fish River	Longitude: 68.5718								

		Bridg	e Information		
No. of Spans:	3	Total Bridge Length:	270'-6"	Date Built:	1902
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected:	10/14/16

**Bridge Description:** 

Three span open timber deck plate girder superstructure supported by concrete piers and concrete abutments.

**Bridge Photos:** 





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 350

- Install additional web stiffeners
- Support existing superstructure to remove and replace abutment backwalls and seats
- Install wingwall tie-back system
- Jacket existing abutments with concrete

Construction	Cost	<b>Estimate</b>
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The Estimated Construction Cost for the Strengthening and Repair Recommendations above is: \$1,600,000







### **Bridge Repair/Strengthening Summary**

Bridge Identification				
Mile Post:	253.87	Town:	Frenchville	Latitude: 47.2808
MaineDOT Bridge #:	7792	Feature Crossed:	Dickey Brook	Longitude: 68.4256

Bridge Information					
No. of Spans:	1	Total Bridge Length:	65'-7"	Date Built:	1910
No. of Tracks:	1	Track Alignment:	Curve	Date Inspected:	10/11/16

**Bridge Description:** 

Single span open timber deck through plate girder superstructure supported by concrete

abutments.

### **Bridge Photos:**





### **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph): 260

- Strengthen stringers
- Rebuild Northeast wingwall
- Concrete patch repair both abutments
- Install additional web stiffeners and retrofit existing web plate splices

Construction	Cost	Fstimate

\$390,000 The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:







## **Bridge Repair/Strengthening Summary**

Bridge Identification					
Mile Post:	259.11	Town:	Frenchville	Latitude: 47	7.3195
MaineDOT Bridge #:	7831	Feature Crossed:	Gagnon Brook	Longitude: 68	3.3820

Bridge Information				
No. of Spans:	1	Total Bridge Length:	12'	Date Built: Unknown
No. of Tracks:	1	Track Alignment:	Tangent	Date Inspected: 10/3/16

Bridge Description:

Cast-in-place concrete arch

**Bridge Photos:** 





## **Strengthening and Repair Recommendations**

Recommendations:

Existing Rating Factor (25mph):

N/A

- Replace culvert with new precast concrete culvert or arch

Construction Cost Estimate	
The Estimated Construction Cost for the Strengthening and Repair Recommendations above is:	\$1,300,000

